

BEST AVAILABLE COPY**PATENT
10/635,829****IN THE CLAIMS:**

Please amend claims 1, 6, 9, 11, 12, 14, 15, 28, 33 and 34 and add new claims 36 - 41 as shown in the full set of claims starting on the next page.

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1. (Presently Amended) A method of welding comprising:
positioning a monomer ~~which is at least partially cured without substantial damage by temperatures produced during friction stir welding~~ between surfaces to be welded together; and
friction stir welding at least portions of the surfaces through the monomer to form a welded joint and to form a corrosion barrier sealant resisting the intrusion of moisture by capillary action adjacent the welded joint between the surfaces by at least partially ~~curing~~ polymerizing the monomer.
2. - 3. (Canceled)
4. (Allowed) A method of welding comprising:
positioning a monomer, which is at least partially cured without substantial damage by temperatures produced during friction stir welding, between surfaces to be welded together;
partially curing the monomer before welding; and
friction stir welding at least portions of the surfaces through the monomer to form a welded joint and to form a sealant adjacent the welded joint between the surfaces by at least partially curing the monomer.
5. (Allowed) The invention of claim 4 wherein welding further comprises:
completing the curing of the monomer.
6. (Currently Amended) The invention of claims 1 or 28 wherein positioning the monomer further comprises:
applying an adhesive elastomeric monomer.
7. (Canceled)
8. (Allowed) A method of welding comprising:
applying an adhesive monomer, which is at least partially cured without substantial damage by temperatures produced during friction stir welding, between surfaces to be welded together;

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partially curing the monomer before welding; and
friction stir welding at least portions of the surfaces through the monomer to form a welded joint and to form a sealant adjacent the welded joint between the surfaces by at least partially curing the monomer

9. (Presently Amended) ~~The invention of claims 1 or 28 wherein welding to cure the monomer further comprises:~~ A method of welding comprising:

positioning a monomer which is at least partially cured without substantial damage by temperatures produced during friction stir welding between surfaces to be welded together; and
friction stir welding at least portions of the surfaces through the monomer to form a welded joint and to form a corrosion barrier sealant adjacent the welded joint between the surfaces by at least partially curing the monomer by at least partially polymerizing the monomer.

10. (Canceled)

11. (Currently Amended) The invention of claims 1 or 28 further comprising:
applying additional heat to cure polymerize the monomer.

12. (Allowed) A method of welding comprising:
positioning a monomer, which is at least partially cured without substantial damage by temperatures produced during friction stir welding, between surfaces to be welded together;
applying heat in the form of laser energy to cure the monomer; and
friction stir welding at least portions of the surfaces through the monomer to form a welded joint and to form a sealant adjacent the welded joint between the surfaces by at least partially curing the monomer.

13. (Previously Presented) The invention of claims 1 or 28 wherein welding further comprises:
forming a lap joint.

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14. (Presently Amended) ~~The invention of claims 1 or 28 wherein positioning a monomer further comprises:~~ A method of welding comprising:
applying an elastomeric monomer, which is at least partially cured without substantial damage by temperatures produced during friction stir welding, between surfaces to be welded together; and
friction stir welding at least portions of the surfaces through the monomer to form a welded joint and to form a corrosion barrier sealant adjacent the welded joint between the surfaces by at least partially curing the monomer.
15. (Currently Amended) The invention of claims 14 or 37 wherein positioning a monomer further comprises:
applying a fluoroelastomeric monomer.
16. - 27. (Canceled)
28. (Currently Amended) The invention of claim 1 further comprising:
selecting a monomer through which a welded joint can be formed by friction stir welding without substantial degradation of ~~the welded joint~~ corrosion barrier sealant.
29. (Allowed) A method of welding comprising:
selecting a monomer through which a welded joint can be formed by friction stir welding without substantial degradation of the welded joint;
positioning the monomer, which is at least partially cured without substantial damage by temperatures produced during friction stir welding, between surfaces to be welded together;
partially curing the monomer before welding; and
friction stir welding at least portions of the surfaces through the monomer to form a welded joint and to form a sealant adjacent the welded joint between the surfaces by at least partially curing the monomer.
30. (Allowed) The invention of claim 29 wherein welding further comprises:

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completing the curing of the monomer.

31. (Allowed) A method of welding comprising:
- selecting an adhesive monomer through which a welded joint can be formed by friction stir welding without substantial degradation of the welded joint;
 - applying the monomer, which is at least partially cured without substantial damage by temperatures produced during friction stir welding, between surfaces to be welded together;
 - partially curing the monomer before welding; and
 - friction stir welding at least portions of the surfaces through the monomer to form a welded joint and to form a sealant adjacent the welded joint between the surfaces by at least partially curing the monomer;
32. (Allowed) A method of welding comprising:
- selecting an adhesive monomer through which a welded joint can be formed by friction stir welding without substantial degradation of the welded joint;
 - positioning the monomer, which is at least partially cured without substantial damage by temperatures produced during friction stir welding, between surfaces to be welded together;
 - applying heat in the form of laser energy to cure the monomer; and
 - friction stir welding at least portions of the surfaces through the monomer to form a welded joint and to form a sealant adjacent the welded joint between the surfaces by at least partially curing the monomer
33. (Currently Amended) A method of welding comprising:
- selecting a monomer which forms a corrosion barrier when cured;
 - positioning the monomer between surfaces to be welded together; and
 - curing polymerizing the monomer by friction stir welding at least portions of the surfaces through the monomer to form a welded joint surrounded by a moisture resistant corrosion barrier sealant between the surfaces.

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34. (Presently amended) ~~The invention of claim 33 further comprising:~~ A method of welding comprising:

selecting a monomer which forms a corrosion barrier when cured;
positioning the monomer between surfaces to be welded together;
at least partially curing the monomer before welding; and
curing the monomer by friction stir welding at least portions of the surfaces through the monomer to form a welded joint surrounded by a corrosion barrier sealant between the surfaces.

35. (Previously Presented) The invention of claim 34 wherein the monomer is an adhesive monomer.

36. (Newly Presented) A method of welding comprising:

selecting a monomer through which a welded joint can be formed by friction stir welding without substantial degradation of the welded joint;

positioning the monomer which is at least partially cured without substantial damage by temperatures produced during friction stir welding between surfaces to be welded together; and

friction stir welding at least portions of the surfaces through the monomer to form a welded joint and to form a corrosion barrier sealant adjacent the welded joint between the surfaces by at least partially polymerizing the monomer.

37. (Newly Presented) A method of welding comprising:

selecting an elastomeric monomer through which a welded joint can be formed by friction stir welding without substantial degradation of the welded joint;

positioning the elastomeric monomer which is at least partially cured without substantial damage by temperatures produced during friction stir welding between surfaces to be welded together; and

friction stir welding at least portions of the surfaces through the monomer to form a welded joint and to form a corrosion barrier sealant adjacent the welded joint between the surfaces by at least partially curing the monomer.

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38. (Newly Presented) The invention of claims 4, 8, 12, 14, 29, 31, 32, 34 or 37 wherein curing the monomer further comprises:
polymerizing the monomer.
39. (Newly Presented) The invention of claim 38 wherein the monomer is an elastomeric monomer.
41. (Newly Presented) The invention of claim 38 wherein the monomer is a fluoroelastomeric monomer.